PTO-1542 (4-85)

U.S. DEPARTMENT OF COMMERCE
PATENT AND TRADEMARK OFFICE

ONLINE SEARCH REQUEST FORM

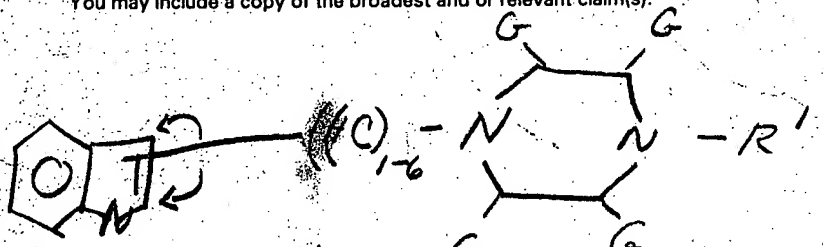
* John, please 3-12

USER EBernhardt SERIAL NUMBER 314 734

ART UNIT _____ PHONE 308-4714 DATE 3/8/95

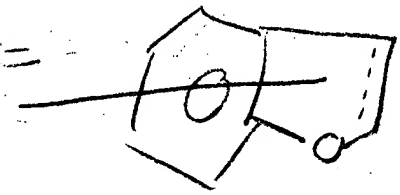
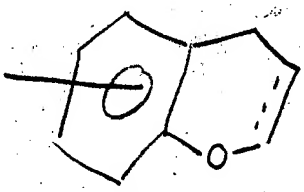
Please give a detailed statement of requirements. Describe as specifically as possible the subject matter to be searched. Define any terms that may have special meaning. Give examples or relevant citations, authors, or keywords, if known.

You may include a copy of the broadest and or relevant claim(s).



allow for substn. on indole ring system

G = H, Me, Et,

R^1 =  or 

Allow for optional substitution on these ring systems

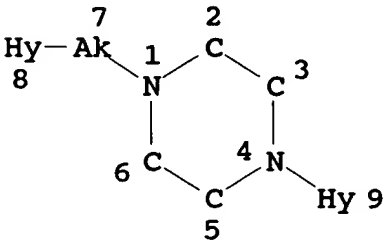
See what you get

STAFF USE ONLY

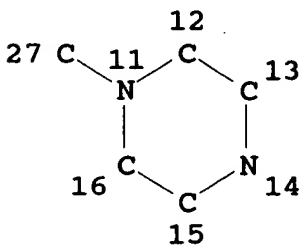
COMPLETED 3-9-95
SEARCHER JOHN O.
ONLINE TIME 10 (in minutes) TOTAL TIME 20
NO. OF DATABASES 3

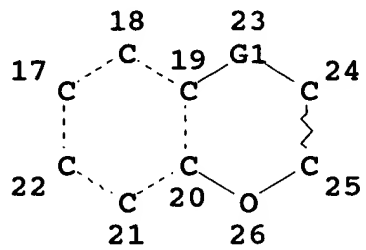
SYSTEMS
- ✓ CAS ONLINE
- ___ DARC/QUESTEL
- ___ DIALOG
- ___ SDC
- ___ OTHER

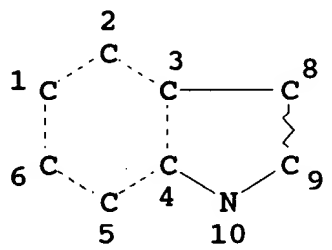
```
=> fil reg
FILE 'REGISTRY' ENTERED AT 07:55:39 ON 09 MAR 95
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 1995 American Chemical Society (ACS)

STRUCTURE FILE UPDATES:   3 MAR 95   HIGHEST RN 161274-47-1
DICTIONARY FILE UPDATES:  8 MAR 95   HIGHEST RN 161274-47-1

TSCA INFORMATION NOW CURRENT THROUGH MAY 1994

  Please note that search-term pricing does apply when
  conducting SmartSELECT searches.

=>
=>
=> d que l6
L2                STR
```




```
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
GGCAT   IS PCY  HIC  LOQ  UNS  AT   8
GGCAT   IS PCY  HIC  LOQ  UNS  AT   9
DEFAULT ECLEVEL IS LIMITED
ECOUNT  IS E8 C  E1 N  AT   8
ECOUNT  IS M8 C  E1 O  AT   9

GRAPH ATTRIBUTES:
RSPEC   1
NUMBER OF NODES IS   9

STEREO ATTRIBUTES: NONE
L4                STR
```








```
REP G1=(0-1) C
NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
```

RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 26

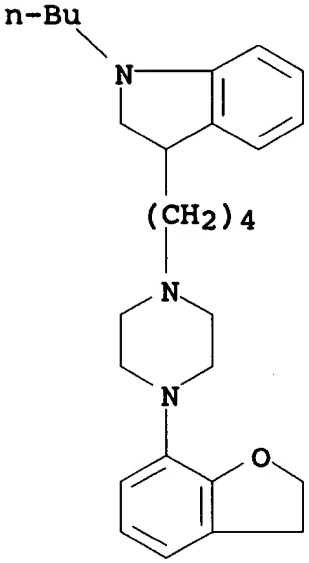
STEREO ATTRIBUTES: NONE
L6 3 SEA FILE=REGISTRY SSS FUL L2 AND L4

=> d 1-3 ide can

L6 ANSWER 1 OF 3 REGISTRY COPYRIGHT 1995 ACS
RN 131084-05-4 REGISTRY
CN 1H-Indole, 1-butyl-3-[4-[4-(2,3-dihydro-7-benzofuranyl)-1-piperazinyl]butyl]-2,3-dihydro-, ethanedioate (1:2) (9CI) (CA INDEX NAME)
MF C28 H39 N3 O . 2 C2 H2 O4
SR CA
LC STN Files: CA, TOXLIT, USPATFULL

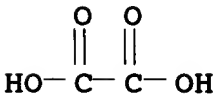
CM 1

CRN 131083-77-7
CMF C28 H39 N3 O



CM 2

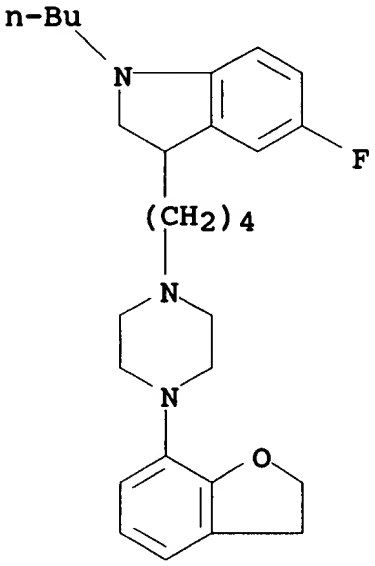
CRN 144-62-7
CMF C2 H2 O4



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P 114:17582

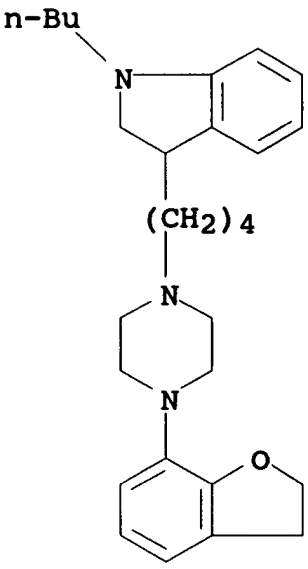
L6 ANSWER 2 OF 3 REGISTRY COPYRIGHT 1995 ACS
RN 131083-92-6 REGISTRY
CN 1H-Indole, 1-butyl-3-[4-[4-(2,3-dihydro-7-benzofuranyl)-1-piperazinyl]butyl]-5-fluoro-2,3-dihydro- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H38 F N3 O
SR CA
LC STN Files: CA, TOXLIT, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P 114:17582

L6 ANSWER 3 OF 3 REGISTRY COPYRIGHT 1995 ACS
RN 131083-77-7 REGISTRY
CN 1H-Indole, 1-butyl-3-[4-[4-(2,3-dihydro-7-benzofuranyl)-1-piperazinyl]butyl]-2,3-dihydro- (9CI) (CA INDEX NAME)
FS 3D CONCORD
MF C28 H39 N3 O
CI COM
SR CA
LC STN Files: CA, TOXLIT, USPATFULL



1 REFERENCES IN FILE CA (1967 TO DATE)

REFERENCE 1: P 114:17582

=> fil ca
FILE 'CA' ENTERED AT 07:55:56 ON 09 MAR 95
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT

FILE COVERS 1967 - 4 Mar 1995 (950304/ED) VOL 122 ISS 10

To help control your online searching costs, consider using the HCA File when using the FSEARCH command or when conducting SmartSELECT searches with large numbers of terms.

CAPLUS IS NOW ONLINE!

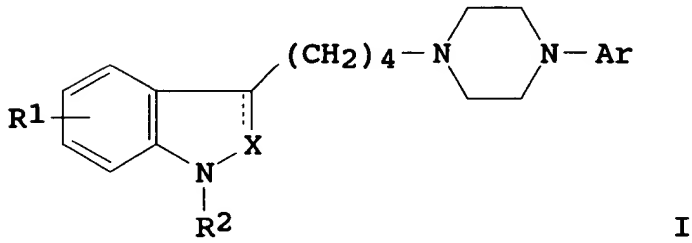
=> s l6
L7 1 L6

=> d all

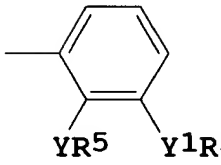
L7 ANSWER 1 OF 1 CA COPYRIGHT 1995 ACS
AN 114:17582 CA
TI Preparation of piperazinyl derivatives, and their use as serotoninergic agonists in the treatment of central nervous system disorders
IN Perregaard, Jens; Stenberg, John Willie
PA Lundbeck, H., og Co. A/S, Den.
SO Eur. Pat. Appl., 18 pp.
CODEN: EPXXDW
PI EP 376607 A1 900704
DS R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE
AI EP 89-313371 891220
PRAI GB 88-30312 881228
DT Patent

= US 5002948

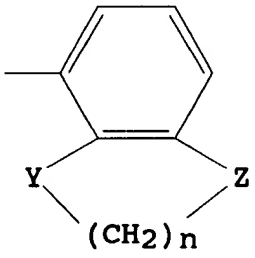
LA English
IC ICM C07D209-14
ICS C07D231-56; C07D231-54; C07D405-12; C07D409-12; C07D411-12; A61K031-40
CC 1-11 (Pharmacology)
Section cross-reference(s): 28, 63
OS MARPAT 114:17582
GI



I



Q1



Q2

AB The title derivs. I [dotted line is optional bond; X = CH, CH2, N(H), C:O; R1 = H, halogen, (un)branched C1-6 alk(en)yl, trifluoromethyl; R2 = H, (un)branched (un)substituted C1-6 alk(en)yl; Ar = Q1, Q2 (Y = O, S; Y1 = H, O, S, CH2; Z = O, S, CH2; n = 1-3; R5 = (un)branched C1-6 alk(en)yl)], and their pharmaceutically acceptable acid addn. salts and stereoisomers, are prepd. for use in treatment of central nervous system disorders, including anxiety, depression, and aggression, or in diseases related to cardiovascular, renal, and gastrointestinal systems. Methods of prepn. of I and pharmaceutical compns. contg. I are also provided. I have central serotonin activity with preference for the 5-HT1A receptor. Thus, 3-[4-(4-(2-methoxyphenyl)-1-piperazinyl)-1-butyl]-1H-2,3-dihydroindole dioxalate (prepn. given) inhibited 5-methoxy-N,N-dimethyltryptamine-induced 5-HT syndrome in rats with ED50 = 1.9 .mu.mole/kg. A tablet formulation contained 3-[4-(4-(1,4-benzodioxan-5-yl)-1-piperazinyl)-1-butyl]-1H-2,3-dihydroindole dioxalate 5, lactose 18, potato starch 27, saccharose 58, sorbitol 3, talcum 5, gelatine 2, povidone 1, and Mg stearate 0.5 mg.

ST piperazine deriv serotoninergic 5HT1A agonist; central nervous system treatment piperazine deriv
IT Pharmaceutical dosage forms
(injections, of piperazine deriv. 5-HT1A agonist, for central nervous system disorders treatment)
IT Neurotransmitter agonists

(serotoninergic S1A, piperazine derivs. as, prepn. of and pharmaceuticals contg.)
IT Pharmaceutical dosage forms
(syrups, of piperazine deriv. 5-HT1A agonist, for central nervous system disorders treatment)
IT Pharmaceutical dosage forms
(tablets, of piperazine deriv. 5-HT1A agonist, for central nervous system disorders treatment)
IT 131083-84-6P 131083-94-8P
(prepn. and reaction of, for serotoninergic 5-HT1A agonist)
IT 131083-83-5P 131083-86-8P 131083-87-9P 131084-17-8P
131084-18-9P 131084-24-7P 131084-25-8P 131084-28-1P
131084-29-2P 131084-30-5P
(prepn. and reaction of, in serotoninergic 5-HT1A agonist prepn.)
IT **131083-77-7P** 131083-89-1P 131083-91-5P
131083-92-6P 131083-96-0P 131083-98-2P 131084-00-9P
131084-01-0P 131084-02-1P 131084-03-2P 131084-04-3P
131084-05-4P 131084-07-6P 131084-09-8P 131084-11-2P
131084-12-3P 131084-14-5P 131084-15-6P 131084-23-6P
131084-27-0P 131084-31-6P 131109-70-1P
(prepn. of, for serotoninergic 5-HT1A agonist)
IT 328-87-0, 2-Chloro-5-trifluoromethylbenzonitrile 928-51-8, 4-Chloro-1-butanol 35386-24-4, 1-(2-Methoxyphenyl)piperazine
131083-82-4 131083-85-7
(reaction of, in serotoninergic 5-HT1A agonist prepn.)
IT 131084-20-3 131084-22-5
(resoln. of, for serotoninergic 5-HT1A agonist)
IT 131083-76-6 **131083-77-7** 131083-78-8 131083-79-9
131083-81-3 131084-16-7
(serotoninergic 5-HT1A agonist)
IT 110-85-0D, Piperazine, derivs.
(serotoninergic 5-HT1a agonists)

=> fil caold caprev
FILE 'CAOLD' ENTERED AT 07:56:17 ON 09 MAR 95
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 1995 AMERICAN CHEMICAL SOCIETY (ACS)

FILE 'CAPREVIEWS' ENTERED AT 07:56:17 ON 09 MAR 95
USE IS SUBJECT TO THE TERMS OF YOUR CUSTOMER AGREEMENT
COPYRIGHT (C) 1995 American Chemical Society (ACS)

=> s l6
FILE 'CAOLD'
L8 0 L6

FILE 'CAPREVIEWS'
L9 0 L6

TOTAL FOR ALL FILES
L10 0 L6

=> fil hom
FILE 'HOME' ENTERED AT 07:56:26 ON 09 MAR 95